

P1
Conclude
has an antimicrobial activity against Rhizoctonia solani or Pyricularia oryzae; or

wherein said protein comprises an amino acid sequence of amino acid residues 76 to 618 of SEQ ID NO:2, or a polypeptide having 50% or more identity with said amino acid sequence and having an antimicrobial activity against Rhizoctonia solani or Pyricularia oryzae, or a combination of these polypeptides.

P2
13. (Twice Amended) The isolated gene according to Claim 11 encoding a protein having antimicrobial activity and having a 50% or more identity with the base sequence of SEQ ID NO:1.

14. (Twice Amended) The isolated gene according to Claim 11 encoding a protein having antimicrobial activity and having a 60% or more identity with the base sequence of SEQ ID NO:1.

15. (Twice Amended) The isolated gene according to Claim 11 encoding a protein having antimicrobial activity and having a 70% or more identity with the base sequence of SEQ ID NO:1.

16. (Twice Amended) The isolated gene according to Claim 11 encoding a protein having antimicrobial activity and having an 80% or more identity with the base sequence of SEQ ID NO:1.

17. (Twice Amended) The isolated gene according to Claim 11 encoding a protein having antimicrobial activity and having a 90% or more identity with the base sequence of SEQ ID NO:1.

D2 conclude 18. (Twice Amended) The isolated gene according to Claim 11 encoding a protein having antimicrobial activity and having a 95% or more identity with the base sequence of SEQ ID NO:1.

19. (Twice Amended) An oligonucleotide for obtaining a gene encoding an antimicrobial protein originated from *Lyophyllum shimeji* produced by a process comprising:

selecting two domains from the base sequence of the gene of SEQ ID NO:1 wherein each domain consists of 15 to 30 bases

preparing single-stranded DNAs having base sequences which are identical to the base sequences of said domains or complementary thereto, or preparing a single-stranded DNA mixture having degeneracy in the genetic code which ensures that the amino acid residues coded by said single-stranded DNAs are not changed; and optionally modifying the single-stranded DNAs while avoiding damage to the binding specificity to the base sequence of said gene encoding the antimicrobial protein.

DB 30. (Amended) An isolated gene encoding an antimicrobial protein, wherein said protein can be obtained from a fraction of an aqueous extract of *Lyophyllum shimeji* precipitated by the ammonium sulfate precipitation method, and wherein said protein has an antimicrobial activity at least against *Rhizoctonia solani* or *Pyricularia oryzae*, and shows the presence of components of about 70 kDa and/or about 65 kDa in molecular weight in the SDS-PAGE method.

31. (Amended) An isolated gene encoding an antimicrobial protein, wherein said protein can be obtained from a fraction of an aqueous extract of *Lyophyllum shimeji* precipitated by the ammonium sulfate precipitation method, and wherein said protein has an antimicrobial activity at least against *Rhizoctonia solani* or *Pyricularia oryzae*, and shows the presence of components of about 70 kDa and/or about 65 kDa in molecular weight in the SDS-PAGE method; and wherein said gene has a base sequence of SEQ ID NO:1 or a base sequence which is complementary to a base sequence which hybridizes to SEQ ID NO:1 under stringent conditions of 6 x SSC, 45°C to 68°C (without formamide) or 25°C to 50°C (with 50% formamide).

DB
Conclude
32. (Amended) An oligonucleotide for obtaining a gene encoding an antimicrobial protein originated from *Lyophyllum shimeji* produced by a process comprising:

selecting two domains from the base sequence of the gene of SEQ ID NO:1, wherein each domain consists of 15 to 30 bases; and preparing single-stranded DNAs having base sequences which are identical to the base sequences of said domains or complementary thereto, or preparing a single-stranded DNA mixture having degeneracy in the genetic code which ensures that the amino acid residues coded by said single-stranded DNAs are not changed.
